LABORATORY REPORT

February 25, 2013

Tim Pool
Aquaterra Environmental Solutions, Inc.
13 Executive Dr., Suite 1
Fairview Heights, IL 62208

RE: Cottonwood Hills Flare Gas Sample / 4733.12

Dear Tim:

Enclosed are the results of the samples submitted to our laboratory on February 12, 2013. For your reference, these analyses have been assigned our service request number P1300562.

All analyses were performed according to our laboratory's NELAP and DoD-ELAP-approved quality assurance program. The test results meet requirements of the current NELAP and DoD-ELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP and DoD-ELAP-accredited analytes, refer to the certifications section at www.caslab.com. Results are intended to be considered in their entirety and apply only to the samples analyzed and reported herein.

Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is certified by the NELAP Laboratory Certificate No. 02115CA; Arizona Department of Health Services, Certificate No. AZ0694; Florida Department of Health, NELAP Certification E871020; New Jersey Department of Environmental Protection, NELAP Laboratory Certification ID #CA009; New York State Department of Health, NELAP NY Lab ID No: 11221; Oregon Environmental Laboratory Accreditation Program, NELAP ID: CA200007; The American Industrial Hygiene Association, Laboratory #101661; United States Department of Defense Environmental Laboratory Accreditation Program (DoD-ELAP), Certificate No. L11-203; Pennsylvania Registration No. 68-03307; TX Commission of Environmental Quality, NELAP ID T104704413-12-3; Minnesota Department of Health, NELAP Certificate No. 494864; Washington State Department of Ecology, ELAP Lab ID: C946, State of Utah Department of Health, NELAP Certificate No. CA015272012-2; State of Maine Laboratory Certification Program, Certificate No. 2012039. Each of the certifications listed above have an explicit Scope of Accreditation that applies to specific matrices/methods/analytes; therefore, please contact me for information corresponding to a particular certification.

If you have any questions, please call me at (805) 526-7161.

Respectfully submitted,

ALS | Environmental

By Sue Anderson at 11:06 am, Feb 25, 2013

Sue Anderson
Project Manager

Client: Aquaterra Environmental Solutions, Inc. Service Request No: P1300562
Project: Cottonwood Hills Flare Gas Sample / 4733.12

CASE NARRATIVE

The samples were received intact under chain of custody on February 12, 2013 and were stored in accordance with the analytical method requirements. Please refer to the sample acceptance check form for additional information. The results reported herein are applicable only to the condition of the samples at the time of sample receipt.

BTU and CHONS Analysis

The results for BTU and CHONS were generated according to ASTM D 3588-98. The following analyses were performed and used to calculate the BTU and CHONS results.

C2 through C6 Hydrocarbon Analysis

The samples were analyzed according to modified EPA Method TO-3 for C_2 through $>C_6$ hydrocarbons using a gas chromatograph equipped with a flame ionization detector (FID).

Fixed Gases Analysis

The samples were also analyzed for fixed gases (hydrogen, oxygen/argon, nitrogen, carbon monoxide, methane and carbon dioxide) according to ASTM D 1946 using a gas chromatograph equipped with a thermal conductivity detector (TCD).

Hydrogen Sulfide Analysis

The samples were also analyzed for hydrogen sulfide per ASTM D 5504-08 using a gas chromatograph equipped with a sulfur chemiluminescence detector (SCD).

Total Gaseous Non-Methane Organics as Methane Analysis

The samples were also analyzed for total gaseous non-methane organics as methane according to modified EPA Method 25C. The analyses included a single sample injection (method modification) analyzed by gas chromatography using flame ionization detection/total combustion analysis.

DETAIL SUMMARY REPORT

Client: Aquaterra Environmental Solutions, Inc.
Service Request: P1300562
Project ID: Cottonwood Hills Flare Gas Sample / 4733.12

Date Received: 2/12/2013
Time Received: 09:20

Client Sample ID	Lab Code	Matrix	Date Collected	Time Collected	Container ID	Pi1 (psig)	Pfl (psig)	TO-3 Modified - C1C6+ Can	3C Modified - Fxd Gases Can	ASTM D5504-01 - H2S Can	25C Modified - TGNMO+ 1X Can
CWH-4	P1300562-001	Air	2/7/2013	14:53	1SC00965	-1.11	8.54	X	X	X	X
CWH-5	P1300562-002	Air	2/7/2013	15:06	1SC01036	-1.51	6.05	X	X	X	X
CWH-6	P1300562-003	Air	2/7/2013	15:20	1SC00397	-1.08	6.98	X	X	X	X

Columbia Analytical Services

Air - Chain of Custody Record & Analytical Service Request

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2655 Park Center Drive, Suite A
Simi Valley, California 93065
Phone (805) 526-7161
Fax (805) 526-7270

Requested Turnaround Time in Business Days (Surcharges) please circle
1 Day (100%) 2 Day (75%) 3 Day (50%) 4 Day (35%) 5 Day (25%) 10 Day-Standard

CAS Project No. P1300562

CAS Contact:

Company Name & Address (Reporting Information)
Aquaterra Environmental Solutions Inc.
13 Executive Drive Suite 1
Fairview Heights, IL 62208

Project Name: Cottonwood Hills Flare Gas Sample

Project Number: 4733.12

Project Manager: Tim Pool

P.O. # / Billing Information

Phone: (618) 628-2001

Fax: (618) 628-2002

Email Address for Result Reporting: tpool@aquaterra-env.com

Sampler (Print & Sign): Jacob Allen

Analysis Method

Client Sample ID	Laboratory ID Number	Date Collected	Time Collected	Canister ID (Bar code # - AC, SC, etc.)	Flow Controller ID (Bar code # - FC #)	Canister Start Pressure "Hg	Canister End Pressure "Hg/psig	Sample Volume	ASTM D3588 Heating Value	NMOC EPA 25C other EPA 3C/TO-3	Comments e.g. Actual Preservative or specific instructions
CWH-4	1-178	2-7-13	1453	ISC00965	AVG02208	-29	-2				
CWH-5	2-178	2-7-13	1506	ISC01036	AVG01459	-27	-3				
CWH-6	3-178	2-7-13	1520	ISC00397	AVG02837	-29	-2				

Report Tier Levels - please select

Tier I - Results (Default if not specified) _____
Tier II (Results + QC Summaries) _____
Tier III (Results + QC & Calibration Summaries) _____
Tier IV (Data Validation Package) 10% Surcharge _____

EDD required Yes / No
Type: _____

Project Requirements (MRLs, QAPP)

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:
	2-7-13	1600		2/7/13	0815
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Date:	Time:

Cooler / Blank Temperature ____°C

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Sample Acceptance Check Form

Client: Aquaterra Environmental Solutions, Inc. Work order: P1300562
Project: Cottonwood Hills Flare Gas Sample / 4733.12
Sample(s) received on: 2/12/13 Date opened: 2/12/13 by: MZAMORA

Note: This form is used for all samples received by ALS. The use of this form for custody seals is strictly meant to indicate presence/absence and not as an indication of compliance or nonconformity. Thermal preservation and pH will only be evaluated either at the request of the client and/or as required by the method/SOP.

		Yes	No	N/A
1	Were **sample containers** properly marked with client sample ID?	☒	☐	☐
2	Container(s) **supplied by ALS**?	☒	☐	☐
3	Did **sample containers** arrive in good condition?	☒	☐	☐
4	Were **chain-of-custody** papers used and filled out?	☒	☐	☐
5	Did **sample container labels** and/or tags agree with custody papers?	☒	☐	☐
6	Was **sample volume** received adequate for analysis?	☒	☐	☐
7	Are samples within specified holding times?	☒	☐	☐
8	Was proper **temperature** (thermal preservation) of cooler at receipt adhered to?	☐	☐	☒
9	Was a **trip blank** received?	☐	☒	☐
10	Were **custody seals** on outside of cooler/Box?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
	Were custody seals on outside of sample container?	☐	☒	☐
	Location of seal(s)? _____ Sealing Lid?	☐	☐	☒
	Were signature and date included?	☐	☐	☒
	Were seals intact?	☐	☐	☒
11	Do containers have appropriate **preservation**, according to method/SOP or Client specified information?	☐	☐	☒
	Is there a client indication that the submitted samples are **pH** preserved?	☐	☐	☒
	Were **VOA vials** checked for presence/absence of air bubbles?	☐	☐	☒
	Does the client/method/SOP require that the analyst check the sample pH and if necessary alter it?	☐	☐	☒
12	**Tubes:** Are the tubes capped and intact?	☐	☐	☒
	Do they contain moisture?	☐	☐	☒
13	**Badges:** Are the badges properly capped and intact?	☐	☐	☒
	Are dual bed badges separated and individually capped and intact?	☐	☐	☒

Lab Sample ID	Container Description	Required pH *	Received pH	Adjusted pH	VOA Headspace (Presence/Absence)	Receipt / Preservation Comments
P1300562-001.01	1.0 L Source Can					
P1300562-002.01	1.0 L Source Can					
P1300562-003.01	1.0 L Source Can					

Explain any discrepancies: (include lab sample ID numbers): _____

RSK - MEEPP, HCL (pH<2); RSK - CO2, (pH 5-8); Sulfur (pH>4)

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RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-4** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-001

Test Code: ASTM D3588-98
Analyst: Mike Conejo/Wade Henton/Jennifer Young Date Collected: 2/7/13
Sample Type: 1.0 L Summa Canister Date Received: 2/12/13
Test Notes:

Initial Pressure (psig): -1.11 Final Pressure (psig): 8.54

Canister Dilution Factor: 1.71

Components	Result Volume %	Result Weight %	Data Qualifier
Hydrogen	**0.64**	**0.05**	
Oxygen + Argon	**2.83**	**3.26**	
Nitrogen	**14.56**	**14.65**	
Carbon Monoxide	< 0.01	< 0.01	
Methane	**47.58**	**27.43**	
Carbon Dioxide	**34.27**	**54.21**	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	**0.01**	
Butanes	< 0.01	**0.01**	
Pentanes	**0.01**	**0.03**	
Hexanes	**0.01**	**0.04**	
> Hexanes	**0.07**	**0.30**	
TOTALS	**99.99**	**99.99**	

Components	Mole %	Weight %
Carbon	**21.75**	**35.62**
Hydrogen	**50.99**	**7.01**
Oxygen + Argon	**19.57**	**42.70**
Nitrogen	**7.68**	**14.67**
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		**0.9607**
Specific Volume	ft3/lb	**13.64**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**489.9**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**441.1**
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**480.1**
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**432.3**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**6,681.0**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**6,016.1**
Compressibility Factor "Z" (60 F, 14.696 psia)		**0.9974**

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RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-5** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-002

Test Code: ASTM D3588-98
Analyst: Mike Conejo/Wade Henton/Jennifer Young Date Collected: 2/7/13
Sample Type: 1.0 L Summa Canister Date Received: 2/12/13
Test Notes:

Initial Pressure (psig): -1.51 Final Pressure (psig): 6.05

Canister Dilution Factor: 1.57

Components	Result Volume %	Result Weight %	Data Qualifier
Hydrogen	**0.63**	**0.05**	
Oxygen + Argon	**3.12**	**3.59**	
Nitrogen	**15.55**	**15.65**	
Carbon Monoxide	< 0.01	< 0.01	
Methane	**46.83**	**26.99**	
Carbon Dioxide	**33.77**	**53.41**	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	**0.01**	
Butanes	< 0.01	**0.01**	
Pentanes	**0.01**	**0.04**	
Hexanes	**0.01**	**0.04**	
> Hexanes	**0.05**	**0.19**	
TOTALS	**99.99**	**99.99**	

Components	Mole %	Weight %
Carbon	**21.56**	**34.99**
Hydrogen	**50.53**	**6.88**
Oxygen + Argon	**19.63**	**42.45**
Nitrogen	**8.28**	**15.67**
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		**0.9607**
Specific Volume	ft3/lb	**13.64**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**480.7**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**432.8**
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**471.2**
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**424.2**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**6,556.3**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**5,903.3**
Compressibility Factor "Z" (60 F, 14.696 psia)		**0.9975**

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RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-6** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-003

Test Code: ASTM D3588-98
Analyst: Mike Conejo/Wade Henton/Jennifer Young Date Collected: 2/7/13
Sample Type: 1.0 L Summa Canister Date Received: 2/12/13
Test Notes:

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.98

Canister Dilution Factor: 1.59

Components	Result Volume %	Result Weight %	Data Qualifier
Hydrogen	**0.62**	**0.05**	
Oxygen + Argon	**2.90**	**3.34**	
Nitrogen	**14.77**	**14.87**	
Carbon Monoxide	< 0.01	< 0.01	
Methane	**47.38**	**27.31**	
Carbon Dioxide	**34.22**	**54.11**	
Hydrogen Sulfide	< 0.01	< 0.01	
Ethane	< 0.01	< 0.01	
Propane	< 0.01	**0.01**	
Butanes	< 0.01	**0.01**	
Pentanes	**0.01**	**0.04**	
Hexanes	**0.01**	**0.04**	
> Hexanes	**0.05**	**0.22**	
TOTALS	**99.99**	**99.99**	

Components	Mole %	Weight %
Carbon	**21.71**	**35.45**
Hydrogen	**50.85**	**6.97**
Oxygen + Argon	**19.63**	**42.71**
Nitrogen	**7.81**	**14.88**
Sulfur	< 0.10	< 0.10

Specific Gravity (Air = 1)		**0.9609**
Specific Volume	ft3/lb	**13.64**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**486.9**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/ft3	**438.4**
Gross Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**477.2**
Net Heating Value (Water Saturated at 0.25636 psia)	BTU/ft3	**429.7**
Gross Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**6,638.7**
Net Heating Value (Dry Gas @ 60 F, 14.696 psia)	BTU/lb	**5,977.7**
Compressibility Factor "Z" (60 F, 14.696 psia)		**0.9974**

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RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-4** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-001

Test Code: EPA Method 3C Modified Date Collected: 2/7/13
Instrument ID: HP5890 II/GC1/TCD Date Received: 2/12/13
Analyst: Jennifer Young Date Analyzed: 2/13/13
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

Initial Pressure (psig): -1.11 Final Pressure (psig): 8.54

Canister Dilution Factor: 1.71

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.637**	0.17	
7782-44-7	**Oxygen +**			
7440-37-1	**Argon**	**2.83**	0.17	
7727-37-9	**Nitrogen**	**14.6**	0.17	
630-08-0	Carbon Monoxide	ND	0.17	
74-82-8	**Methane**	**47.6**	0.17	
124-38-9	**Carbon Dioxide**	**34.3**	0.17	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-5** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-002

Test Code: EPA Method 3C Modified Date Collected: 2/7/13
Instrument ID: HP5890 II/GC1/TCD Date Received: 2/12/13
Analyst: Jennifer Young Date Analyzed: 2/13/13
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

Initial Pressure (psig): -1.51 Final Pressure (psig): 6.05

Canister Dilution Factor: 1.57

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.630**	0.16	
7782-44-7	**Oxygen +**			
7440-37-1	**Argon**	**3.12**	0.16	
7727-37-9	**Nitrogen**	**15.6**	0.16	
630-08-0	Carbon Monoxide	ND	0.16	
74-82-8	**Methane**	**46.8**	0.16	
124-38-9	**Carbon Dioxide**	**33.8**	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

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RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-6** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-003

Test Code: EPA Method 3C Modified
Instrument ID: HP5890 II/GC1/TCD
Analyst: Jennifer Young
Sample Type: 1.0 L Summa Canister
Test Notes:

Date Collected: 2/7/13
Date Received: 2/12/13
Date Analyzed: 2/13/13
Volume(s) Analyzed: 0.10 ml(s)

Initial Pressure (psig): -1.08 Final Pressure (psig): 6.98

Canister Dilution Factor: 1.59

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	**Hydrogen**	**0.625**	0.16	
7782-44-7	**Oxygen +**			
7440-37-1	**Argon**	**2.90**	0.16	
7727-37-9	**Nitrogen**	**14.8**	0.16	
630-08-0	Carbon Monoxide	ND	0.16	
74-82-8	**Methane**	**47.4**	0.16	
124-38-9	**Carbon Dioxide**	**34.2**	0.16	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **Method Blank** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P130213-MB

Test Code: EPA Method 3C Modified Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Jennifer Young Date Analyzed: 2/13/13
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: 0.10 ml(s)
Test Notes:

CAS #	Compound	Result %, v/v	MRL %, v/v	Data Qualifier
1333-74-0	Hydrogen	ND	0.10	
7782-44-7	Oxygen +			
7440-37-1	Argon	ND	0.10	
7727-37-9	Nitrogen	ND	0.10	
630-08-0	Carbon Monoxide	ND	0.10	
74-82-8	Methane	ND	0.10	
124-38-9	Carbon Dioxide	ND	0.10	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P130213-LCS

Test Code: EPA Method 3C Modified Date Collected: NA
Instrument ID: HP5890 II/GC1/TCD Date Received: NA
Analyst: Jennifer Young Date Analyzed: 2/13/13
Sample Type: 1.0 L Summa Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

CAS #	Compound	Spike Amount ppmV	Result ppmV	% Recovery	CAS Acceptance Limits	Data Qualifier
1333-74-0	Hydrogen	40,000	**35,400**	**89**	75-117	
7782-44-7	Oxygen +					
7440-37-1	Argon	50,000	**47,900**	**96**	85-111	
7727-37-9	Nitrogen	50,000	**48,700**	**97**	85-114	
630-08-0	Carbon Monoxide	50,000	**47,800**	**96**	85-119	
74-82-8	Methane	40,000	**37,400**	**94**	90-114	
124-38-9	Carbon Dioxide	50,000	**46,300**	**93**	84-113	

WM01040

RESULTS OF ANALYSIS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Project ID: P1300562

Total Gaseous Nonmethane Organics (TGNMO) as Methane

Test Code: EPA Method 25C Modified
Instrument ID: HP5890 II/GC1/FID/TCA
Analyst: Wade Henton
Sampling Media: 1.0 L Summa Canister(s)
Test Notes:

Date(s) Collected: 2/7/13
Date Received: 2/12/13
Date Analyzed: 2/13/13

Client Sample ID	CAS Sample ID	Canister Dilution Factor	Injection Volume ml(s)	Result ppmV	MRL ppmV	Data Qualifier
CWH-4	P1300562-001	1.71	0.50	**4,200**	1.7	
CWH-5	P1300562-002	1.57	0.50	**4,300**	1.6	
CWH-6	P1300562-003	1.59	0.50	**4,500**	1.6	
Method Blank	P130213-MB	1.00	0.50	ND	1.0	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.
MRL = Method Reporting Limit - The minimum quantity of a target analyte that can be confidently determined by the referenced method.

WM01041

LABORATORY CONTROL SAMPLE SUMMARY

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **Lab Control Sample** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P130213-LCS

Test Code: EPA Method 25C Modified Date Collected: NA
Instrument ID: HP5890 II/GC1/FID/TCA Date Received: NA
Analyst: Wade Henton Date Analyzed: 2/13/13
Sampling Media: 1.0 L Summa Canister Volume(s) Analyzed: NA ml(s)
Test Notes:

Compound	Spike Amount ppmV	Result ppmV	% Recovery	CAS Acceptance Limits	Data Qualifier
Total Gaseous Nonmethane Organics (TGNMO) as Methane	99.0	**108**	**109**	85-139	

LABORATORY DUPLICATE SUMMARY RESULTS

Client: **Aquaterra Environmental Solutions, Inc.**
Client Sample ID: **CWH-4** CAS Project ID: P1300562
Client Project ID: **Cottonwood Hills Flare Gas Sample / 4733.12** CAS Sample ID: P1300562-001DUP

Test Code: EPA Method 25C Modified
Instrument ID: HP5890 II/GC1/FID/TCA
Analyst: Wade Henton
Sampling Media: 1.0 L Summa Canister
Test Notes:
Container ID: 1SC00965

Date Collected: 2/7/13
Date Received: 2/12/13
Date Analyzed: 2/13/13
Volume(s) Analyzed: 0.50 ml(s)

Initial Pressure (psig): -1.11 Final Pressure (psig): 8.54

Canister Dilution Factor: 1.71

Compound	Sample Result ppmV	Duplicate Sample Result ppmV	Average	% RPD	RPD Limit	Data Qualifier
Total Gaseous Nonmethane Organics (TGNMO) as Methane	**4,170**	**3,980**	4075	**5**	14	

ND = Compound was analyzed for, but not detected above the laboratory reporting limit.